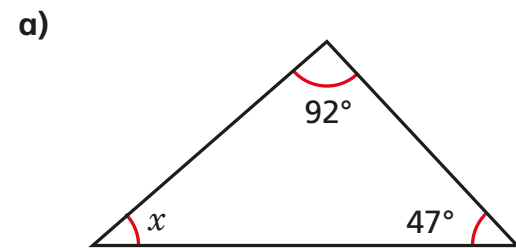
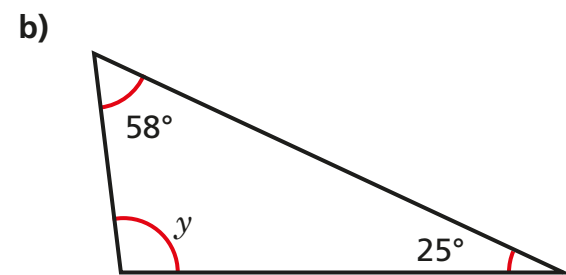


Know and apply the sum of angles in a triangle

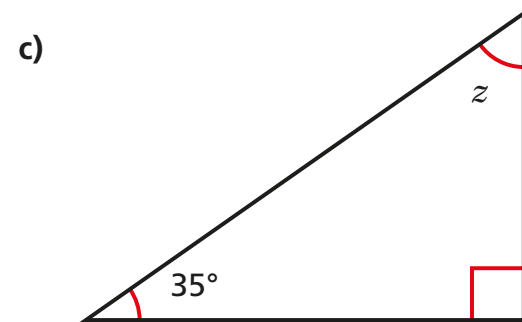
1 Work out the sizes of the unknown angles. Give reasons for your answers.



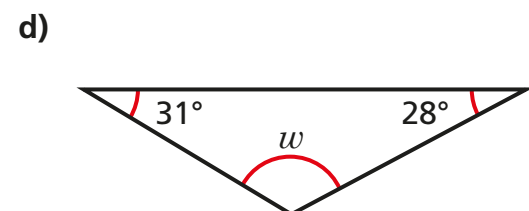
$x = 41^\circ$ because angles in a triangle sum to 180°



$y = 97^\circ$ because angles in a triangle sum to 180°

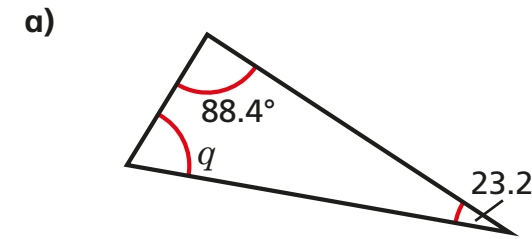


$z = 55^\circ$ because angles in a triangle sum to 180°

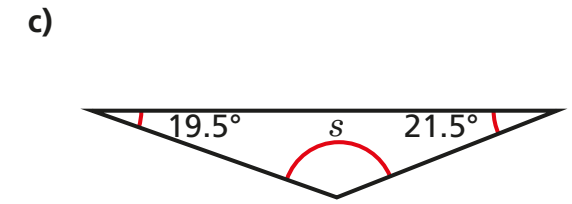


$w = 121^\circ$ because angles in a triangle sum to 180°

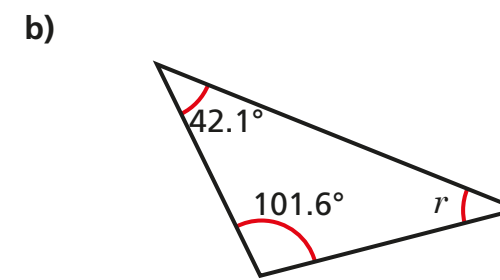
2 Work out the unknown angles.



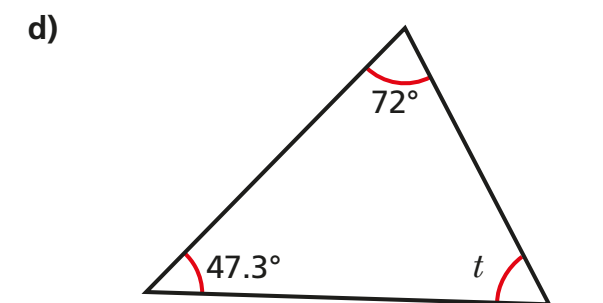
$q = 68.4^\circ$



$s = 139^\circ$



$r = 36.3^\circ$



$t = 60.7^\circ$

Discuss your reasons with a partner.

3 a) Two angles in a triangle are 42° and 57° . What is the size of the third angle?

81°

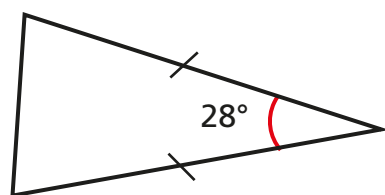
b) Two of the angles in a triangle are 12° . What is the size of the third angle?

156°

c) One of the angles in a triangle is 38° . Another angle is twice the size of the first angle. What is the size of the third angle?

66°

- 4 Dexter is working out the unknown angles in triangles.



I can't work out either of the missing angles because I don't have enough information.

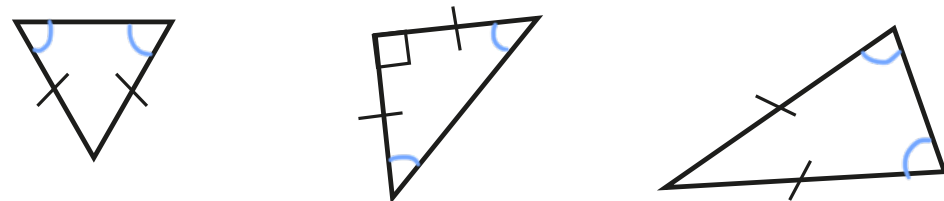
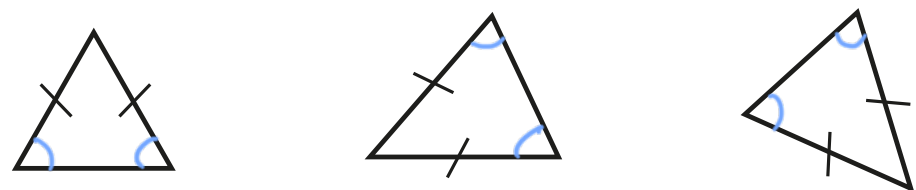


Do you agree with Dexter? No

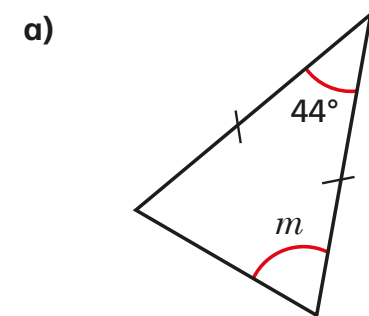
Explain your answer.

The triangle is isosceles so both of the unknown angles are equal. $180 - 28 = 152$, $152 \div 2 = 76$. Both angles are 76°

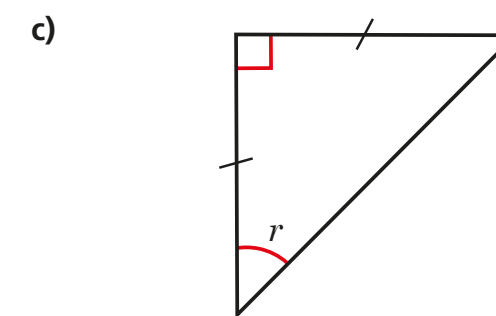
- 5 Identify and label the angles that will be equal in each triangle.



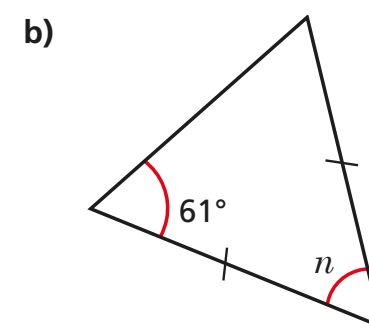
- 6 Work out the sizes of the unknown angles.



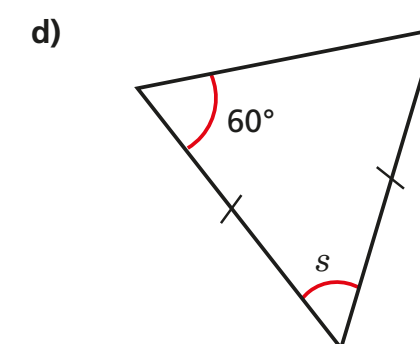
$m = 68^\circ$



$r = 45^\circ$



$n = 58^\circ$



$s = 60^\circ$

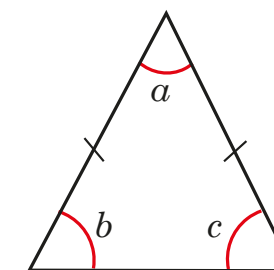
What type of triangle is the triangle in part d)?

Talk about it with a partner.

- 7 One angle in an isosceles triangle is 29° .
What could the other angles be? Give two possible answers.

29° and 122° or 75.5° and 75.5°

- 8 Angle b is twice the size of angle a .
Work out the size of angle c .



72°